

IN THE CLAIMS:

Please amend Claim 7 as follows:

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7. (Twice Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by the oscillating flow of the circulating blood of the living being, said method comprising the step of administering a β -blocker to the living being for reducing the rate of ejection of the blood from the heart of the living being which reduces the magnitude of the oscillating flow of the circulating blood that causes endothelial cell dysfunction.

Please amend Claim 8 as follows:

B1 8. (Twice Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by the oscillating flow of the circulating blood of the living being, said method comprising the step of minimizing or eliminating smoking by the living being for reducing the rate of ejection of the blood from the heart of the living being which reduces the magnitude of the oscillating flow of the circulating blood that causes endothelial cell dysfunction.

Please amend Claim 9 as follows:

sub 21 9. (Twice Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by the oscillating flow of the circulating blood of the living being, said method comprising the step of minimizing or eliminating the ingestion of caffeine by the living being for reducing the rate of ejection of the blood from the heart of the living being which reduces the magnitude of the oscillating flow of the circulating blood that causes endothelial cell dysfunction.

← Please amend Claim 10 as follows: →

B1 10. (Twice Amended) A method for reducing endothelial cell dysfunction in a living being which is caused by the oscillating flow of the circulating blood of the living being, said method comprising the step of ingesting of alcohol by the living being for reducing the rate of ejection of the blood from the heart of the living being which reduces the magnitude of the oscillating flow of the circulating blood that causes endothelial cell dysfunction.

Please cancel Claim 14.

Please cancel Claim 28.

Please amend Claim 29 as follows:

29. (Amended) A method for estimating blood vessel wall shear stress in high and low shear areas of a blood vessel bifurcation of a living being by correlating a blood viscosity parameter with a blood pressure parameter, said method comprising the steps of:

B2 (a) determining a first viscosity profile of the circulating blood of the living being over a plurality of shear rates and a second viscosity profile of the circulating blood of a healthy living being over said plurality of shear rates for use as a reference;

(b) defining a blood viscosity parameter that comprises:

(1) a high shear rate blood viscosity component based on high shear rate blood viscosity values from said first and second viscosity profiles;

(2) a low shear blood viscosity component based on low shear rate blood viscosity values from said first and second viscosity profiles; and

(3) a component representing the thrombotic tendency of the blood;

(c) defining a blood pressure parameter that comprises:

(1) an average blood pressure term; and

(2) a rate of ejection of blood from the heart of the living being; and

B2
(d) providing a matrix having a plurality of said blood viscosity parameters along a first axis of said matrix and a plurality of said blood pressure parameters along a second orthogonal axis and wherein the intersection of any one of said plurality of said blood viscosity parameters and any one of said plurality of said blood pressure parameters specifies a particular high wall shear stress and low wall shear stress.

Please cancel Claim 37.

Please amend Claim 38 as follows:

38. (Amended) An apparatus for automatically determining the surface tension of the circulating blood of a living being, said apparatus comprising:

a blood column height determinator based on capillary rise; and

wherein said column height determinator comprises:

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B3 a lumen having a first end vented to atmosphere and a second end coupled to one port of a valve, said valve having a second port coupled to a source of circulating blood of the living being;

a reservoir, vented to atmosphere, having an input coupled to a third port of said valve;

a detector for monitoring a fluid level in said lumen; and

wherein said valve is first operated to direct the circulating blood into said lumen to form a column of blood and wherein said valve is then operated to isolate said circulating blood from said lumen while coupling said lumen and said reservoir in fluid communication to form a falling column of blood in said lumen, said detector detecting the final position of said falling column of blood.

Please amend Claim 44 as follows:

B4 44. (Amended) An apparatus for collecting red blood cells of the circulating blood of a living being, said apparatus comprising a plurality of tubes closely adjacent one another and each having an inner diameter different from its neighbor, each of said plurality of tubes having an opening exposed to a flow of circulating blood and each of said tubes being closed at its other end for collecting red blood cells therein, each of said blood cells entering one of said plurality of tubes according to each blood cell's ability to deform.

Please amend Claim 46 as follows:

B5 46. (Twice Amended) An apparatus for collecting red blood cells of the circulating blood of a living being, said apparatus comprising a plurality of tubes closely adjacent one

another and each having an inner diameter different from its neighbor, each of said plurality of tubes having an opening exposed to a flow of circulating blood and each of said tubes being closed at its other end for collecting red blood cells therein, each of said blood cells entering one of said plurality of tubes according to each blood cell's ability to deform and wherein the inner diameters of said plurality of tubes is within the range of 1 μ m to 10 μ m.

BS Please amend Claim 47 as follows:

47. (Twice Amended) An apparatus for collecting red blood cells of the circulating blood of a living being, said apparatus comprising:

a plurality of tubes closely adjacent one another and each having an inner diameter different from its neighbor, each of said plurality of tubes having an opening exposed to a flow of circulating blood and each of said tubes being closed at its other end for collecting red blood cells therein, each of said blood cells entering one of said plurality of tubes according to each blood cell's ability to deform;

an illuminator for passing light through each one of the plurality of tubes as they collect red blood cells in accordance with their respective inner diameters and wherein respective light rays, of varying degrees of redness corresponding to the amount of red blood cells collected in each of said plurality of tubes, emerge from said plurality of tubes; and

a redness color detector for detecting the degree of redness of each of said emerging light rays corresponding to each of said plurality of tubes.